

February 2021

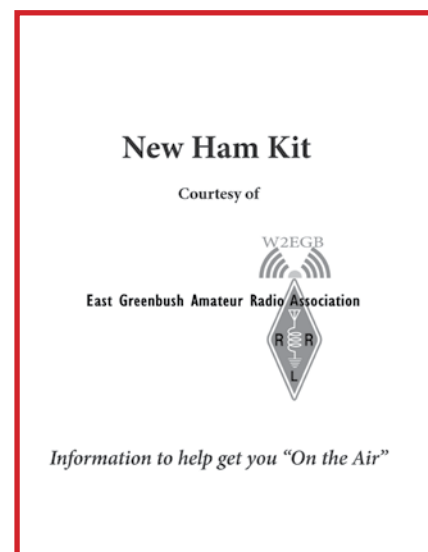
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EGARA's "New Ham Kit" a Hit

As you likely know from last month's issue of Sidebands, EGARA's "New Ham Kit" started getting rave reviews from Amateur Radio clubs from both around the country and around the world after an article about it was published by ARRL on its social media sites in January. However, with the article now appearing in the February edition of the League's QST magazine, things have really taken off, with many clubs inquiring about how to adopt it for their own use (A reprint of the story is on page 3).

The kit was developed by EGARA to help new hams get on the air, realizing that many don't know where to start after getting their license. Kits are provided free to exam applicants who pass their Technician license test at one of the club's VE testing sessions. It covers basic information on equipment, repeaters, operating tips, band privileges and the additional benefits of upgrading to higher license classes.

"One of the issues I had when I passed my first test is exactly what your club has addressed," wrote Don Lockridge, AI7CE, Vice president of the Chehalis Valley Amateur Radio Society in Washington state. "I am an Extra class, but following each test, I noticed there was not much assistance moving forward. As luck would have it this very topic was brought up at our board meeting. And even more fortuitous, I had just seen this article. (continued on page 2)

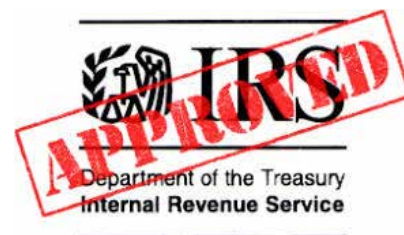


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IRS Approves Non-Profit Status for EGARA

The Internal Revenue Service has officially determined that EGARA meets its requirements as a 501(c3) non-profit charity. The designation was received in January, but was effective October 11, 2020, the date the club filed its application.



Non-profit status provides many benefits, including tax deductions for those who donate equipment, services or contribute money to the club.

An immediate benefit of being designated a non-profit charity is that the club will be able to move forward with its 220 mhz repeater project.

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Next Membership Meeting - February 10, 2021 - via 147.270 Repeater @ 7 pm

New Ham Kit... continued

Among other inquiries was one from Greg Walker, VK4GJW, who serves as Secretary/Training Officer of the Ipswich & District Radio Club in Queensland, Australia.

"I have run a number of Foundation courses (equivalent to your Technician Class) in our club, and similar to your experience, some are never to be heard of on air or seen again. I want to change that and try and draw these people into our club. I was wondering if you had a copy of what you produce in your New Ham Kit. Obviously I would have to Australianize it for our Amateur operations here, but it would help to give me some ideas to work with."

A similar email came in from Rowland Brasch, K7RWB, a Trustee of the Snoqualmie Valley ARC:

"I really like your "New Ham" packet that I read about in QST. We have been deciding on how to create a document that could be handed to new hams. We thought of tri-fold fliers and so on. What you have created is a very nice package, What I like is the presentation and the ease of changing or updating the information contained in it."

To assist these and other clubs, PDF electronic copies of the New Ham Kit have been posted on the club's website home page for download. In addition, ARRL has also made it available on its website.

ARRL's post to its Facebook and Instagram social media sites also garnered some 300 "likes" and a number of favorable comments.

Comments on social media and received by email included:

- *"Awesome idea. Jeez it is so pragmatic. Every club should do this."* -- Ralph Katz, AA8RK
- *What an amazing way to welcome new HAMS. Thank you for the article and idea.* -- Jayant Ramakrishnan, KG5LJ, NASA Johnson Amateur Radio Club
- *"I am one of those new guys and would like to say thank you!"* -- Bob Cummings
- *Your article in the latest QST sure struck a chord here in Burlington Ontario! Your New Ham Kit will complement the support we offer to our newhams.* -- Hugh McCully, VE3AYR, Burlington Ontario Amateur Radio Club
- *"What a good idea I'm glad somebody's going to thinking about new hams."* -- Dale Cook, K6DJC
- *"I have been doing something similar for many years... but this adds some cool things..."* -- Mary Joseph
- *"!! Yessss!! I'm down with this, we can surely do something similar!"* -- Sylvain Lamarre, Canadian Amateur

A reprint of the full QST article is on the following two pages.

2021 is Here and Paying Club Dues Has Never Been Easier!

Take a moment right now to support EGARA by sending along your annual dues for 2021.

Pay quickly and easily online at: <https://www.egara.club/pay-dues>

or mail your check to: EGARA, P.O. Box 25, East Greenbush, NY 12061.

\$15 / individual - \$25 / family

Multi-year rates also available. Check the website for details.

New Ham Kit

A Way for Clubs to Help Get New Hams on the Air

A New York radio association created a valuable tool for new operators.

Bryan Jackson, W2RBJ

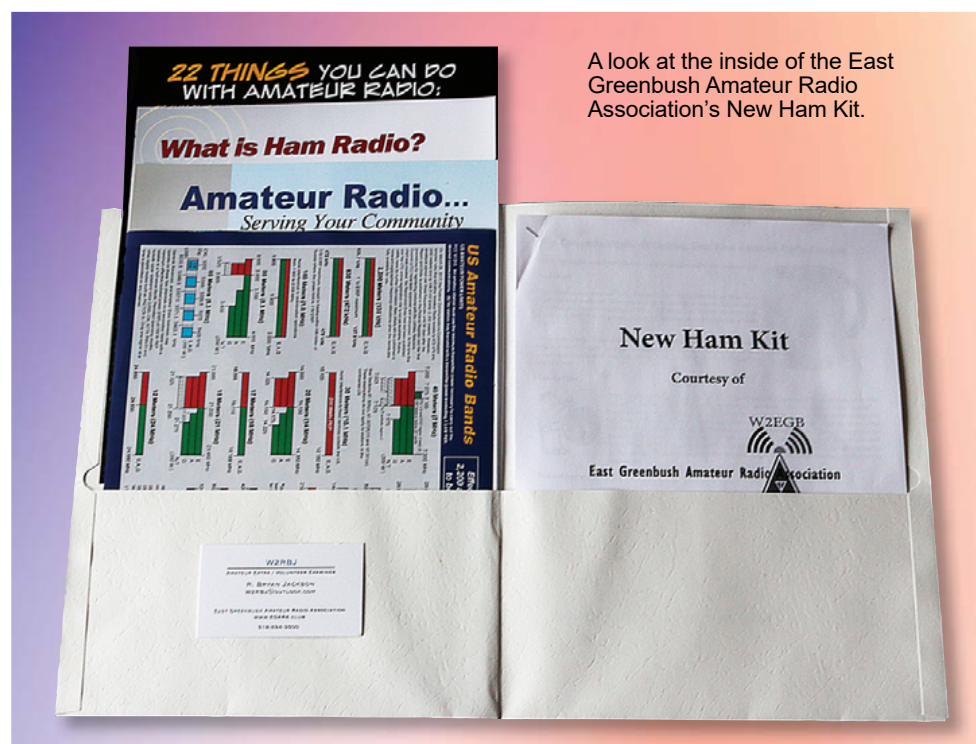
It's a common occurrence in amateur radio for test applicants to pass their licensing exams and never get on the air. Our club, the East Greenbush Amateur Radio Association (EGARA) located in New York's Capital District, found that the biggest challenge facing many new hams was simply where to start. To help with this, EGARAs provides Technician-class licensees with a copy of our New Ham Kit. We've found it to be a valuable tool in getting newcomers on the air by offering easy-to-understand information on equipment basics, operating guidelines, and helpful tips.

Kit Details

First, our kit urges newly licensed hams to join an amateur radio club. In addition to including applications to join EGARAs and ARRL, we offer a free

membership to EGARAs for the first year. We point out that joining a club full of experienced hams (especially mentors) can provide the encouragement and guidance new operators need. As a result, our club has grown its membership and recruited younger operators vital to keeping our hobby alive.

Additionally, we provide new hams with an overview of the equipment they'll need to get on the air, including a brief review of entry-level handheld transceiver radios. We also encourage them to search the internet and YouTube to find resources and guidance available for new hams. We request their email address during their Volunteer Examiner (VE) session to add them to the mailing list for our monthly newsletter. This helps maintain our contact with these new hams and keeps our club in the forefront.



A look at the inside of the East Greenbush Amateur Radio Association's New Ham Kit.

In describing repeater basics, the kit includes an explanation of frequency offsets and CTCSS tones, how they work (with an illustration), as well as a detailed chart that lists offsets for each band. There's also a complete list of the frequencies and CTCSS tones for our local club repeaters.

Additionally, the kit includes information on how to make a call, upgrade your license, and other topics. While the kit doesn't address specific equipment controls, it does refer new hams to our club's website (www.egara.club), where they can find a wealth of resources and relevant information,

such as links to sites offering operating tips, repeater directories, ham radio equipment classifieds, and organizations such as ARRL, FCC, and SKYWARN.

Because our club maintains several repeaters, we include their frequencies and urge our new hams to use them. In particular, we emphasize not to be intimidated about pressing the push-to-talk (PTT) button, explaining that experienced hams are happy to help new operators.

We also include excellent resource materials from ARRL, many of which are free. Our kit usually runs about six pages of our own material, and three to four flyers provided by ARRL.

The information included in our kit was culled from EGARA members, ARRL, and reliable amateur radio sources.

Creating Your Own Kit

Like any project, producing your own kit will require a point person to manage it. If your club has a newsletter editor or webmaster, this might be the logical lead person. Creating the kit itself doesn't require anything more than a standard word processing program, although using a desktop publishing program such as Adobe InDesign or Microsoft Publisher can make the layout of text, graphics, and photos look more professional.

Adding visual elements can make concepts such as repeaters easier to understand. Helpful photos and graphics can be found online and are often royalty-free when they are used for non-commercial purposes. However, if you have club members who are adept at photography, you can create your own images.

Once you have a prototype kit assembled, have it reviewed for accuracy and content by several people — preferably by those who didn't work on it. You'll want to make sure that the information flows logically, is understandable, and that technical concepts are presented in a way that new operators can easily comprehend them. It's also a good idea to ask a non-ham to review your draft.

Once you're ready to go to press, remember that the presentation of your New Ham Kit is important too. Poorly reproduced copies and sloppy assembly of its contents will defeat your hard work and reflect negatively on your club. We usually only produce a dozen or so at a time, based on numbers from our past VE

New Ham Kit Contents

- ✓ Cover Sheet
- ✓ Congratulations On Getting Your New Amateur Radio License
 1. Overview of What's Next to Get On the Air
 2. Joining a Club
 3. Basic Equipment for Technicians
 4. Technician Operating Privileges
 5. Understanding the Band Chart
- ✓ Club Membership Application
- ✓ Getting On the Air
 1. Repeater Basics (with graphic)
 2. Offsets, CTCSS Tones
 3. How to Make a Call — Basic Call Script
 4. Talking to Other Stations, Dos and Don'ts
 5. Getting Experience
 6. Upgrading to a General License and Expanded HF Operation
- ✓ ARRL Information Flyers and Band Chart

sessions, using either an inkjet or laser printer. Office supply stores with printing centers are also an option.

We finish our kits by neatly placing the pieces in a pocket folder. These can be purchased for around 25 cents each, and some have a cutout for a business card. "New Ham Kit courtesy of the East Greenbush Amateur Radio Association" is neatly printed on a label and placed on the front of the folder. The completed kits are kept with our VE exam materials and brought to each testing session.

Finally, our cost per kit runs under a dollar. This small investment has allowed us to gain and retain a dozen or so new members over the past couple of years since we began handing out our New Ham Kit. Hopefully your club will enjoy similar results.

Bryan Jackson, W2RBJ, holds an Amateur Extra-class license, is an ARRL sanctioned Volunteer Examiner, and serves as President of the East Greenbush Amateur Radio Association. He is a former Press Officer to two New York governors and previously served as State Capitol Correspondent for NBC, WNYT-TV, and WOR Radio. From 1991 to 1996, he built, owned, and managed WCDA-FM in Albany, New York. Today, he is semi-retired, but enjoys working as a substitute teacher and encouraging his students to explore amateur radio. Bryan can be reached at w2rbj@outlook.com.

For updates to this article, see the QST Feedback page at www.arrl.org/feedback.



Workbench: Germicidals May Kill Your Electronics

Not all sanitizing wipes are safe to use on your equipment

By John Bisset

Not all wipes are created equal --

Sanitizing wipes are a popular way to clean desks, counter tops, doorknobs, and so forth, especially when trying to stop the spread of COVID-19. However, don't forget that not all sanitizing wipes are safe for electronics.

One broadcast engineer recently got a call from a radio client about a PR&E BMX console that had failed after being cleaned with wipes that were not intended for use around electronics.

In fairness to the staffer involved, the product labeling didn't mention anything about sensitive devices. But the liquid in the wipes apparently leaked between the modules and ran down the printed circuit boards below the surface of the console. Channels began turning on and off on their own, and the problem made operating the board impossible for a short time.

By the time the engineer arrived at the studio, most of the solution had evaporated so the board was beginning to return to normal. But as a precaution, he removed the modules and cleaned them with isopropyl alcohol to eliminate any possible residue that remained.

Cleaning wipes may be conductive --

After he finished working on the board, the engineer got curious about whether the fluid in the wipes had any measurable resistance.

Ideally, the resistance should have been infinite. However, it measured as little as 28K-ohms across a small area with a digital multi-meter, as shown in Fig. 1.

The resistance was certainly low enough to interfere with normal circuit operation of the board, akin to dropping hundreds of stray resistors across the traces of the printed circuit board.

Taking the experiment a step further, he tested a paper towel saturated with 91% isopropyl alcohol, shown in Fig. 2.

Here the resistance was infinite, or at least greater than the 2M-ohm maximum resistance of the DMM, making it high enough not to interfere with most low voltage circuits.

So, here's the tip: Don't assume that cleaning wipes are non-conductive! Check them first.

About the author: John Bisset has spent over 50 years in the broadcasting industry. He handles western U.S. radio sales for the Telos Alliance.



Fig. 1: Cleaning wipes may be conductive, posing a risk to electronic parts.



Fig. 2: Note the resistance of a towel soaked in isopropyl alcohol.

FCC DROPS Proposed Ham Fee from \$50 to \$35



The FCC has agreed with ARRL and hundreds of Hams that its proposed \$50 fee for certain Amateur Radio applications was "too high to account for the minimal staff involvement in these applications."

In a Report and Order (R&O), released on December 29, the FCC scaled back its proposed \$50 fee to \$35 for a new license application, a special temporary authority (STA) request, a rule waiver request, a license renewal application, and a vanity call sign application. All fees are per application. There will be no fee for administrative updates, such as a change of mailing or email address.

This fall, ARRL filed comments in firm opposition to the FCC proposal to impose a \$50 fee on Amateur Radio license and application fees and urged its members to follow suit. Many EGARA members also filed their comments.

As the FCC noted in its R&O, although some supported the proposed \$50 fee as reasonable and fair, "ARRL and many individuals argued that there was no cost-based justification for application fees in the Amateur Radio Service."

"After reviewing the record, including the extensive comments filed by Amateur Radio licensees and based on our revised analysis of the cost of processing mostly automated processes discussed in our methodology section, we adopt a \$35 application fee, a lower application fee than the Commission proposed in the NPRM for personal licenses, in recognition of the fact that the application process is mostly automated," the FCC said. "We adopt the proposal from the NPRM to assess no additional application fee for minor modifications or administrative updates, which also are highly automated."

The FCC said it received more than 197,000 personal license applications in 2019, which includes not only ham radio license applications but commercial radio operator licenses and General Mobile Radio Service (GMRS) licenses.

The FCC turned away the arguments filed by some that the FCC should exempt Amateur Radio licensees. The FCC stated that it has no authority to create an exemption "where none presently exists." The FCC also disagreed with those who argued that amateur radio licensees should be exempt from fees because of their public service contribution during emergencies and disasters.

"[W]e are very much aware of these laudable and important services Amateur Radio licensees provide to the American public," the FCC said, but noted that specific exemptions provided under Section 8 of the so-called "Ray Baum's Act" requiring the FCC to assess the fees do not apply to Amateur Radio personal licenses. "Emergency communications, for example, are voluntary and are not required by our rules," the FCC noted. "As we have noted previously, '[w]hile the value of the Amateur Service to the public as a voluntary noncommercial communications service, particularly with respect to providing emergency communications, is one of the underlying principles of the amateur service, the amateur service is not an emergency radio service.'"

The Act requires that the FCC switch from a Congressionally-mandated fee structure to a cost-based system of assessment. The FCC proposed application fees for a broad range of services that use the FCC's Universal Licensing System (ULS), including the Amateur Radio Service, which had been excluded previously. The 2018 statute excludes the Amateur Service from annual regulatory fees, but not from application fees.

"While the Ray Baum's Act amended Section 9 and retained the regulatory fee exemption for amateur radio station licensees, Congress did not include a comparable exemption among the amendments it made to Section 8 of the Act," the FCC R&O explained.

The effective date of the fee schedule has not been established, but it will be announced at least 30 days in advance. The FCC has directed the Office of Managing Director, in consultation with relevant offices and bureaus, to draft a notice for publication in the Federal Register announcing when rule change(s) will become effective, "once the relevant databases, guides, and internal procedures have been updated."

On the Beam

News & Notes

FCC Sets 6/29 for E-Mail Address to be Required on All Applications

Starting June 29, 2021, the FCC will begin requiring email addresses to be included on all applications made by Amateur Radio licensees and test candidates. Applications missing an email address will be considered "defective" and likely rejected or delayed.

The change follows the FCC's adoption last September of Report and Order on "Completing the Transition to Electronic Filing, Licenses and Authorizations, and Correspondence in the Wireless Radio Services."

The FCC has already begun strongly encouraging applicants to provide an email address. The Commission will use it to provide a link to an official electronic copy of an applicants license once it is granted. An official copy will also be available at any time by accessing the licensee's password-protected Universal Licensing System (ULS) account.

ARES Connect Being Discontinued

ARRL has announced that it plans to close down the present ARES Connect platform operated by Volunteerhub. This is due to several factors including adoption rates, costs and disagreements with the vendor over an inability to make needed changes to the program.

While certainly not perfect, ARES Connect has served the Eastern NY Section quite well, with over 500 members participating and showing proof of almost 4000 volunteer hours during 2020, including public service events, training, meetings, nets and SKYWARN activations. The value of these services last year was estimated to be worth over \$120,000.

The ability to track this data was provided by the platform. A successor system is now being discussed by ARRL. Other options are also being explored if this becomes necessary.

"We hope for minimal disruption," said Dave Galletly, KM2O, the ENY Section Emergency Coordinator. "Apologies in advance for any inconvenience that may occur as well as any loss of present features."

The system will operate as usual until later this year. and Emergency Coordinators are asked to continue to record events.

"Please keep using ARES Connect to sign up for and schedule events as well as to record participation until we are able to give you details of the transition to another platform," Galletly said. "That is projected to take place by late summer or early fall depending on ARRL or whether we are forced to use an alternate system."



EGARA December Meeting Minutes

- The January 2010 EGARA Meeting-On-The-Air was begun at 7 PM, 1/13/2011 at 7 PM on the EGARA 147.270 repeater. There were 13 check-ins.
- The Treasurers report was given. There were no notable expenses. Dues are being accepted for 2021 and may be paid through the EGARA website using Pay Pal, or checks may be mailed to Don, KB2CDX or Bryan, W2RBJ.
- The President's report noted the following: no update on the 501©3, Christmas gifts have all been distributed; the New Ham Kit article will appear in the February issue of QST. There have been numerous inquiries about the kit. Newsletter articles and items for buy/sell/swap are being solicited. EGARA hats are on order – the club will take payment at time of delivery.
- No VP report given due to a work/schedule conflict.
- Old business: None
- New business: Reported by the ARRL that the Dayton Hamvention for 2021 has been canceled again due to the ongoing Coronavirus pandemic.
- The club Liability insurance policy is scheduled for renewal. There have been numerous changes to the policy and items are under review.
- The Masonic Temple remains closed to meetings due to the pandemic.
- Members report the following items of general interest: Anxiously waiting for coronavirus vaccine, staying healthy, prospects of vacation in warmer climes. New phone system for the shack. Raspberry Pi's; Alterations and consulting at the Albany Memorial Hospital; PA system in the church. Article in QST showing an in-dash mount for a radio control head, and working on a vertical antenna for 10/11 meters.
- Many expressed hopes for continued good health and, of course, warmer and sunnier weather. After a round of 73's, the meeting was adjourned at 7:36 PM and the repeater returned to general amateur use.
- Meeting adjourned at 7:36 PM.
- --de Steve VanSickle WB2HPR / Secretary

Antenna Construction -- Choosing the Right Materials

By Steve Vansickle, WB2HPR

Last month's tech topic touched on the importance of weather-proofing antenna connections and components to help guard against corrosion. This time, let's take a few minutes to consider some criteria for antenna material selection. We'll limit this discussion to outdoor wire antennas, since they are very popular and are commonly constructed by many operators. Wire antennas would include dipoles, end-fed Zepps, off-center fed (OCF), the popular G5RV, and slopers, to name a few. There are, of course others, but the same principles apply.

The main component of these wire antennas is the wire itself, which acts as both support and active radiator. The antenna wire will be under great stress, from stretching due to weight between insulators, and the weight of the feedline, or cable, which may also be pulling on the wire. Added factors would include wind loading, as well as ice accumulation during winter weather.

There are several types of wire that may be used to perform this not-so-small feat. One possibility is copper-clad steel antenna wire. AWG 14 copper-clad steel has a rated strength of 224 ft-lbs and will provide many years service under normal conditions. It is only sold from suppliers such as DX Engineering, Davis/RE, Wireman, and others. You will not find this at your usual electrical wholesaler or big-box store. This wire is sometimes available tinned, as well. The advantage of copper-clad steel is high strength, minimal wind resistance and good conductivity. This would be a great choice for constructing any of the wire antenna types mentioned earlier.

An alternate is THHN wire. This is commonly available from hardware stores or home centers. This wire is insulated drawn copper wire, coated with Thermoplastic, High Heat and Nylon coated (hence THHN) for insulating purposes. It is commonly used for transmission of electrical power in many industrial applications. Since it is readily available, it is often used for amateur antenna applications, usually AWG 10-14.

An advantage of THHN wire is that the insulation serves to protect the copper from corrosion. Also, there is some evidence that is less prone to static build-up. The downside is that the insulation contributes weight to the wire, and due to the velocity factor of the insulation, you will need to compensate for differences in length, versus your computed value, and adjust accordingly.



THHN wire and polyester antenna support rope are available in 500 foot spools

Also, because insulated wire is larger in diameter per AWG, it can accumulate a greater ice and wind load. This can put extra stress on the wire supports and insulators. If you try to compensate with larger diameter (greater AWG), you will add to the total weight and stress on the supports – kind of a catch 22!

Another key component of wire antennas is the insulators, which are found at the feed point and the ends of the wire. Quality and type of material is critical because they serve to protect from shock and fire hazard, as well as support the wire, feedline or coax cable, and any associated matching devices such as ununs or baluns.

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The History of Ham Radio: Crossings I—Aquitania

Chris Codella, W2PA, author, John Pelham, W1JA, editor, Phil Johnson, W2SQ, editor

(Editor's note: By special arrangement with the authors, Sidebands is pleased to present this multi-part series on the history of ham radio. Subsequent chapters will be published in future monthly editions of the newsletter)

Marconi had first done it back in 1901. For amateurs, crossing the Atlantic was the next natural challenge—they had been thinking about it since before the war. Many in the scientific community were skeptical that such a feat could possibly be achieved at such a short wavelength as 200 meters, especially with power as low as one kilowatt.

An early rumor that American signals had been received in Europe appeared in the press in December 1920. The new record, the story went, may have been set on 6 October when signals from 2QR, a 100-watt station operated by brothers Harold and Hugh Robinson of Keyport, New Jersey, were reportedly received by George Benzie and James Miller in Aberdeen, Scotland, who claimed they had heard “phonograph musical selections.” But after a year-long investigation that was still going on during both sets of transatlantic tests, a committee of the R.C.A. concluded that it had not, in fact, occurred. The group did not question the Robinsons’ motives, believing they had given Benzie’s letter, in which he claimed reception, to the press in good faith. As it turned out, 2QR was not transmitting when Benzie claimed to have heard it, and the Robinsons agreed.

In February 1921 the first, though unsuccessful, transatlantic attempt involved 25 US stations transmitting and over 250 British amateurs enrolled as receiving entrants. The test had been originally proposed and planned in 1920 by M. B. Sleeper, the radio editor of *Everyday Engineering*. But after the magazine ceased publication later that year, Sleeper asked ARRL to take over the operation. With little time left to fully reconsider how to run it, the ARRL Operating Department stepped in. Coded messages (which they called “arbitrary signals”) were assigned to the transmitting stations, and logged reception reports were compared for accuracy. Although many signals were heard but not copied, none could be conclusively shown to represent a completed reception. In the twenty years since Marconi’s crossing, the criteria for what constituted a valid reception had become much more stringent—a single letter ‘S’ would no longer suffice. After all, in Marconi’s case, his station had been easy to identify since it was the only one on the air.

While gratefully acknowledging the cooperation and enthusiasm of British hams, ARRL secretary Kenneth Warner attributed the failure to their outdated receiving equipment and an understandable lack of experience in DX work, both of which the Americans had developed only after “years of patient struggle.” With new equipment and expertise he was confident of success next time. “We would bet our new spring hat that if a good U.S. amateur with [a more modern] set and an Armstrong Super could be sent to England, reception of U.S. amateurs would straightway become commonplace,” wrote Warner. The bet would eagerly be taken up and doubled down.

After considering other deficiencies that might have contributed to failure in the first test, the organizers developed improved procedures. A second attempt would take place on the evenings of 8 through 17 December. The new plan would give “each transmitter a fair chance to accomplish this almost unbelievable feat.” To be eligible to participate in the test a station would first have to be shown capable of reaching 1,000 miles by doing so in an over-land qualifying test in November. Phillip R. Coursey, assistant editor of *The Radio Review* in London and operator of 2JK (British), was in charge of all receiving operations and would determine the winners after reports had been received. Coursey had also officiated in the previous unsuccessful tests in February. The announcement in QST referred to the event as a “contest”—maybe the first DX contest, albeit one in which all contacts were one-way only.

Late 1921 was a particularly busy period. In the midst of the phone boom and plans for the transatlantic tests, the ARRL held its first national convention in Chicago from 31 August through 3 September, including “the biggest banquet ever held in the history of Amateur Radio.” October QST’s coverage filled more than fourteen pages—its cover boasted that all districts were represented and featured a picture of a group to prove it. Well organized and attended, the convention had been “two big hotels full of bugs chewing the sock until break o’ dawn every morning.”

A message arrived at the convention from US Secretary of Commerce Herbert Hoover. The man who would be elected president seven years later referred to his department as the “Patron Saint of Amateur Wireless Operators,” and called amateur radio “a very important movement.” The message arrived via radiogram, of course.

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History of Ham Radio...

Maxim, in his opening address, reflected on the historic nature of the first convention and how far amateurs had come in organizing since those first days in Hartford. He predicted that nothing could stop relaying from going worldwide, and in a thinly veiled political statement envisioned a day “when private citizens may communicate without cost from the shores of the great far-flung Pacific on the west to the limits of civilized co-operation and good government on Europe’s east.”

An evening session featured many well known speakers including DeForest, Armstrong, A. H. Taylor, L.M. Clausing, and R F. Gowen, along with Frank Conrad of 8XK radiotelephone fame. CW was the hottest topic of the technical sessions and a “CW Night” was devoted to that mode entirely. Professor C. M. Jansky of the University of Minnesota presented a paper on the superiority of CW to spark by comparing operating experiences. Not everyone had been convinced, however, and Warner read two letters from “Speedo Vermilya, 1ZE” about spark’s superiority. The debate continued; the only consensus was that the coming season of on-air work would likely decide the matter.

The ARRL Board of Direction met to discuss the transatlantic test and decided unanimously to appropriate funds to send a US ham to England to ensure success.

Paul Forman Godley grew up in Kansas and spent his late teen years working as a telegraph operator for railroads and other companies. Enthralled with wireless at a young age, he read whatever material he could find about it, such as articles in Scientific American. In 1908 at age 19 he managed at last to become involved in wireless at a commercial firm in Chicago. Impressed with his enthusiasm and expertise, his superiors put him in charge of the United Wireless station in Grand Rapids before he turned 20. Over the next four years he found himself in a whirlwind of wireless work: a student at the University of Illinois, installing equipment and designing courses on wireless in Texas, on assignment as “wire chief” of the Post Office in New York, and on the Amazon River helping to develop a radio service for the Brazilian government.

Finally settling in New Jersey in the summer of 1914, he built a station, 2ZE, broke all distance records with it, and designed a new regenerative receiver that became very popular among amateurs. Presenting his designs to the R.C.A., and publishing them in QST, he was widely credited with being the first to adapt the Armstrong regenerative circuit to shortwave amateur use. As an engineer at the Adams-Morgan Company he developed their Paragon line of receivers based on this design, and later at the Marconi Company he designed military receiving equipment for use during the war. In 1918 he married, started a family, and later started his own company in Montclair.



Paul F. Godley

By late 1921 Godley, now 32, was a senior member of the radio establishment, both amateur and professional, and widely recognized as an expert in shortwave reception—one of an elite few. Therefore, it would be “Paragon Paul” whom the ARRL would dispatch to England to anchor the receiving end of the next transatlantic tests.

Godley would be sent specifically to supplement the British efforts with American expertise using American apparatus. Judged by the ARRL board as “America’s best authority and best operator in short wave receiving,” he would sail to England aboard the Aquitania on 15 November to prepare for the December operation. Meanwhile, he would be building and selecting the best equipment he could find to cover the shortwaves.

It wasn’t that the British hams were not up to the task, as had been suggested by a French magazine. After all, it was England to which the American and Canadian hams had looked for early supplies of vacuum tubes after the war. But, as QST amusingly put it, “the British are not such ‘Boiled Owls’ as we North American hams and do not, as a class, relish staying up to all hours.” And since the ARRL would never be so impolite as to ask them to do so, “it was at first thought that the transmitting schedules would have to be limited. But the sending of an American amateur changes this so that not only will the special stations have individual schedules but everybody else can enter who will.”

-continued on next page-

History of Ham Radio...

Perhaps the most important change from the February attempt was that in addition to scheduled operations of the more powerful, qualifying stations, everyone else was invited to join in too. The organizers explicitly wanted this test to be a “free for all in which everybody can participate.” QST reminded readers that the proper direction to favor was northeast since signals followed the great circle route. Therefore those on the Atlantic coast would not necessarily have an advantage.

The test would consist of ten nights of six-hour sessions, from 7 through 16 December, and run from 7:00 p.m. to 1:00 a.m. Eastern Time in the US. The “free for all” session would run from 7:00 until 9:30, when stations could transmit according to time slots assigned in fifteen-minute intervals assigned by district. Qualifying stations would then transmit for the second interval beginning at 9:30, according to a schedule of fifteen-minute periods, the sequence of which would be rotated each night. Two or three stations shared each time slot and would transmit simultaneously.

Each of the qualifying stations would transmit five-letter coded messages, called “secret cipher combinations,” that were sealed in envelopes not to be opened until the tests began. The identities of the 27 stations were likewise kept secret, and included 20 CW and 7 spark transmitters. Among them were 1AW (Maxim), 1ZE (Vermilya), 6XH (Stanford University) and 9ZN (Mathews).

ARRL Traffic Manager Schnell would send the schedule and station list to only Coursey, and seal his own copy in the safe at ARRL Headquarters. Godley, who would report through Coursey just as the other listeners would, only knew the free-for-all schedule as did the general public. Coursey would give him and all the other listeners information about schedules and wavelengths, but would keep the station identities and cipher groups secret.

Public interest in the test ran high in Europe, especially in the Netherlands, France, and Britain, where details were published in their national radio journals. A Burndept III Ultra receiver would be awarded by Burnham & Co. of England, as announced by Mr. W. W. Burnham, “one of England’s leading amateurs.” The prize would go “to the A.R.R.L. member whose signals rank first in the reception in the British Isles,” though it was unclear how the ranking would be judged.

British Marconi station MUU at Carnarvon planned to transmit nightly test reports at 2:00 a.m. EST. In QST, A. L. Groves described apparatus he recommended for receiving MUU on 14,200 meters while dealing with possible QRM from NSS on 16,900, WGG on 16,100, and WII on 13,600. In particular, he noted that in some nearby areas NSS and WGG heterodyne with each other creating a problem within “three or four thousand meters of these waves.”

In an example of how exquisitely complicated tuning an advanced receiver was in his day, Groves instructed readers that:

“With Duo-Lateral coil 1500 in the secondary, shunted by a 43 plate (.001mfd.) condenser, WII tunes in at about 50 degrees on the 180 degree scale, and MUU should tune in at not over 53 degrees. The filament and B battery are of course adjusted in the usual manner; then the secondary condenser is adjusted to approximately the figures above indicated. The plate coil is gradually brought closer to the secondary until the tube oscillates which is indicated by a “thud” in the phones. With the primary coil about 2 to 2-1/2 inches from the secondary, slowly vary the primary condenser until the set is “balanced out.” After signals are picked up they can be brought in clearer and stronger by further adjustment of primary coupling, accompanied by slight changes in primary condenser. After that a slow loosening of the plate coupling will almost always give additional amplification.”

Today this seems rather like running through an alignment procedure each time you tune your receiver to a new frequency.

The December 1921 QST cover drawing by 8ZZ announced “Transatlantic Tests This Month” in large type across a globe where lightning bolts linked North America to England and “QRM Babies” were lashed tightly to the north pole spike where they presumably could do no harm. In America, a ham sits at his station keying his transmitter with The Old Man looking on. In England a ham listens intently through headphones tightened firmly in place with a C-clamp over his head. Another gentleman looks on, perhaps the British equivalent of T.O.M., or perhaps Mr. Burnham.

Inside, a photograph captured Schnell and Warner on board the Aquitania seeing Paul Godley off on his voyage to England. A send-off dinner had been held for him in New York the night before



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History of Ham Radio...

departure, attended by luminaries including Maxim, Hebert, Camp, Stewart, Service, Goette, E. H. Armstrong, J. Andrew White, P.H. Boucheron, G. H. Burghard, and W. S. Smith. Among the testimonials, Armstrong was quoted as saying, "I'll stake my scientific reputation on Paul Godley." It's hard to imagine a stronger endorsement.

On the morning of 15 November, The Aquatania was set to sail for England. Amid the commotion of the multitude at the dock and on board the departing ship, the "radio birds" used opening-closing hand gestures to send Morse code messages back and forth to Godley standing at the ship's railing above all the QRM of the crowd.

By coincidence, Dr. Harold H. Beverage, inventor of the wave antenna, also happened to be aboard Aquitania for this voyage, something neither Godley nor anyone else in the crowd had known beforehand. Recognizing the well-known radio experimenter at the railing a short distance from Godley, the group on the dock let him know via this hand-Morse. Godley immediately went over to introduce himself, the two having never before met in person. Beverage, who had noticed the gesturing too, signaled "OK" to the crowd as he shook hands with Godley—a striking metaphor for what was to come.



**Warner, Godley, and Schnell
aboard the Aquitania just before
it sailed for England.**

Godley carried with him information about the final schedules and the all-important cipher combinations, messages that were known ahead of time only to ARRL Traffic Manager Schnell, in a sealed packet that Coursey would open and become the only person to know them on the receiving side of the Atlantic.

In addition to the nightly reports transmitted by MUU, Beverage's station, 2BML, manned by operators from RCA's Long Island receiving station in Riverhead, New York, would retransmit the reports on 200-meter CW. ARRL gratefully acknowledged the help of both companies, Marconi and RCA.

Godley's own twenty-page account of the entire operation, including much of his minute-by-minute log, appeared in February 1922 QST and makes interesting reading.

For several nights after leaving New York "the amateur air was thick with farewells and good wishes for 2ZE, Godley's home call, for everybody knew he would be in the static-room on the Aquitania," wrote Warner. And so he was, spending much of his time with the operators in the radio room, enjoying their hospitality. Although he had access to the ship's station, there was no time to tune for amateur signals because of the high volume of regular message traffic. He nevertheless received messages from US friends via commercial wireless transmissions to the ship. A message from ARRL that he copied himself on his second day at sea read:

From Hartford, Conn.

To Paul F. Godley, SS Aquitania via WBF.

Bon Voyage! The entire radio world is pulling for you!

(Signed) Warmaxnell

He replied, "Confidence increases as distance squared. Broadcast my heartfelt appreciation."

Heartened by the well-wishers' messages, he resolved to "get signals or bust!"

Keeping in mind the skepticism and what he termed "veiled interest" from the engineering community of which he was a member, and feeling that no ham in Britain believed the test would succeed, Paul Godley was eager to prove them all wrong.

Antenna Materials... They Need the Right Stuff Too... (continued from page 7)



Insulators used to construct wire antenna are available made from glass, porcelain, or plastic (not shown)

Materials that can meet these demands include glass, glazed porcelain, and plastic. The best insulating properties may be found in tempered glass. Properly constructed, they can provide exceptional dielectric strength and will withstand great mechanical tension. The drawback is that they must be handled carefully – they are, after all, glass, and they can be a bit pricey.

Alternatively, glazed porcelain insulators are a good choice. Although the glaze can be chipped, they offer excellent electrical and mechanical properties. A third choice would be plastic insulators. These are commonly available from suppliers, and are inexpensive and light in weight. However, they may not have the longevity of glass or porcelain due to inferior UV resistance. Despite this drawback, plastic insulators are used extensively in the construction of many antenna types.

Other types of insulators may be user made from recycled plastic, Plexiglas, or PVC pipe. Bear in mind the limitations of mechanical and dielectric strength, as well as UV exposure. Wood, both varnished and paraffin impregnated, has seen service as antenna insulators.

Finally, we need to consider the type of support to be used when a wire antenna is held up to a mast, tower, pole, or tree. This can be one of the weakest points of the entire antenna setup. It is important to again consider mechanical strength and UV resistance. Don't be tempted to use that old piece of manila clothes line that you thought was too good to throw away!

A proper support rope or catenary or halyard must be made to withstand great mechanical stress, and be highly resistant to UV radiation. Otherwise, it is guaranteed to fail. Antenna support rope (line) is made specifically for this application. Dacron is a great choice – it is available in several diameters, has low stretch, is UV resistant, and is easy to tie. One of our Hamfest sponsors, Mastrant, sells a premium support rope. See their website where you will find information to help determine the size rope you need. Ordinary paracord is a poor choice, and will likely deteriorate from sunlight and fail in a year's time. As me how I know! Likewise, cheap plastic rope sold in discount centers will become brittle and fall apart. And it can be devilish to tie a knot.

The bottom line: Study your options – select the best materials types for the job. Your choice must be a balance of availability, suitability, and budget constraints. Buy from established, reputable suppliers, such as those found in QST. Finally, if you're unsure about what to use, ask a fellow club member for help or advice. Another good resource is the ARRL Antenna Book – available from the League. Remember – the antenna is the biggest and most important part of your radio system. A proper installation, using the best available materials, will result in a dependable antenna that can provide great performance for many years. Put it up once – put it up right!

As always – SAFETY FIRST!

Next time: Antenna feed line tips.

EGARA Gets IRS Non-Profit Approval...

"With our non-profit status now official, we look forward to moving forward with getting our long awaited 220 repeater project moving in cooperation with Channel 6," said Club President Bryan Jackson, W2RBJ. "One of the stipulations we were asked to meet was that we get 501(c)3 approval from the IRS, as that would allow the owners of the station to donate space for the repeater in return for a tax deduction."

According to the determination letter issued by the IRS:

"We have determined you're a public charity. Donors can deduct contributions they make to you under IRC Section 170. You're also qualified to receive tax deductible bequests, devises, transfers or gifts under Section 2055, 2106, or 2522."

As part of its non-profit status, EGARA will now be required to file an annual information return. However, because of the club's limited financial resources, the report can be filed quickly and with a minimum of paperwork on IRS form 990-EZ using an E-Postcard on line.

Work on the Helderberg repeater site will be able to proceed once the club and Channel 6 formalize a lease agreement for use of its facility. Weather, of course, will also be a factor.



The 220 repeater is proposed for installation at the old analog site used by Channel 6, WRGB. The building currently houses the station's digital backup transmitter and the transmitter of FM broadcast station WRVE.

Free E-Book Explores Magic of 6 Meters

They say there's no free lunch, but at least there's a free E-book to help you explore the world of Six Meters... also known as the "Magic Band".

The 50 page book has been created by Jim Wilson, K5ND and is available at no charge as a PDF download. It covers everything from the theoretical workings of 6 meters -- to antennas you can build -- to the various operating modes you can work.

You can download your free copy at:

<https://www.k5nd.net/wp-content/uploads/2020/08/Six-Meters-eBook-V4.pdf>

**Capture the
MAGIC of
Six Meters**



Dayton Hamvention Cancels 2021 Show

Dayton Hamvention® has been canceled for the second year.

"Unfortunately, several setbacks in the recovery from the COVID-19 pandemic make necessary the difficult decision to cancel Hamvention 2021," the Hamvention Executive Committee has announced. Sponsored by the Dayton Amateur Radio Association (DARA), Hamvention was set to take place May 21 - 23 in Xenia, Ohio.

"Hundreds of volunteers have been working to do everything necessary to bring this Hamvention to the many amateur radio enthusiasts and vendors who support the Dayton Hamvention," the committee continued. "Vaccine distribution both in the United States and around the world is lagging behind what was planned. In addition, the emergence of a more communicable form of the COVID-19 virus increases the potential for further public health problems in the next few months. We make this difficult decision for the safety of our guests and vendors." Tickets deferred last year will be deferred again until 2022.

The Hamvention Committee hinted at a QSO party for Hamvention weekend. In November, Hamvention had announced that "The Gathering" would be the theme for the 2021 show. Hamvention is the largest annual amateur radio gathering in the US, and was the host of the ARRL National Convention for its last event, held in 2019. The ARRL Hamfest and Convention Calendar includes a searchable database that includes other canceled in-person events.

EGARA's annual Hamfest is normally held the weekend before the Hamvention, but no decision has been reached yet on rescheduling or canceling it. Depending on the status of the pandemic, the club is holding open the possibility of moving the event to late summer.

Please Support Our EGARA 2021 Hamfest Sponsors



Shack of the Month - WA2WAP



Dave Smith, WA2WAP, has been busy working on his shack while stuck at home during the pandemic.

His XYL bought him a very nice birthday present -- a brand new FTDX-3000!

Dave's station includes a tower and a tri-band beam.

He says his new gear has made him like "a kid in a candy store!"

Dave was first licensed in 1967 as WN2WAP - and re-licensed in October 2014.

He upgraded to his General in January 2015.



He's also been a ARRL member for many years.

Other Memberships include:

EQSL
QRZ
LoTW
FISTS CW
SKCC
10-10

Let Sidebands Feature Your Shack!
Send photos and a brief description to W2RBJ@outlook.com

CALENDAR

February 10, 2021 - 7 pm - Monthly club meeting over 147.270 club repeater.

February 24, 2020 - 7 pm - EGARA Roundtable on 147.270 repeater

Pro Tip: Label That Cable!

It's easy for your shack to get overrun with wires and cables... and trying to figure out what goes where can often be near impossible.

The solution is to get labels on those cables!



Labels can be as simple as a paper tag... or a dedicated label maker as the Dymo Rhino 4200, which allows you to professionally print custom wiring labels (including on shrink tube labels). It's a bit pricey though at around \$70 on Amazon. Either way, it will definitely make your life easier when you're trying to track those elusive cables

**Dymo Rhino
4200 Label Maker
for Wiring**



Looking to Buy

- XT/AT style keyboard (original PC type) with 5 pin Din plug.
 - Seeking Amplifier for an Icom-7300
- For above, contact Rusty Reed at: ehreed@yahoo.com

For Sale

- IFR-1100S Service Monitor. With Spectrum Analyzer and Oscilloscope. Tested and Calibrated last year. AM - FM, CTCSS Generator, VGC. \$875.00
- Military Watt Meter AN/URM-120 B/U 2 to 1000 MHz Complete with Carrying Case. In EC. \$90.00
- Yaesu FT-2900 Programming Software by RT Systems Cable included. Registered, includes password. \$29.00
- UHF RX Amp, 1 input 3 outputs. 12V. SO-239s \$10
- HF 440 Mhz Fast Scan TV Transceiver including B&W Camera. \$65
- Several old desktop and mini notebook computers good for projects. Good deals!

For above, contact John at: radiowizzz@aol.com

- Arrow Model 52-S4 - 4-Element 6 Meter Yagi antenna in good condition. \$75.00

For above contact Steve at: svansick@nycap.rr.com

- Ameritron 811 Amplifier with latest updates. Worn parts replaced. Does not include tubes. Asking \$450.

Contact: wo2h@nycap.rr.com or phone 518-860-4971

- ICOM 7100, 100w HF/50mhz, 50w 144mhz, 35w 430/440mhz. \$475.
- Yaesu 891, Mobile HF / 6 meters. \$425.

For above contact Tom, KC2FCP, at 518-272-1494

- Yaesu FT2DR/DE Digital Transceiver with Original box and parts. Added accessories: Diamond SRH77CZ antenna, Yaesu MH-34 Microphone, Yaesu SDD-13 charger (for mobile) \$ 375.00 offers considered. Excellent condition. Sells new for \$419 without extra's.

- Alinco DJ-596 2M/440 analog Transceiver with MFJ-1715 antenna, optional Battery Case (AA batteries), with Chargers including mobile. \$30.00

- Cisco Linksys Router EA6300 \$25.00

- Cisco Linksys Router EA3500 \$20.00

For above contact Fred, AJ4CN at: aj4cn@twc.com

The East Greenbush Amateur Radio Association

Organized in 1998, by Bert Bruins, N2FPJ, (SK) and Chris Linck, N2NEH, the East Greenbush Amateur Radio Association, an ARRL affiliate, is committed to providing emergency services, educational programs, and operating resources to amateur radio operators and residents of the Capital Region of New York State. The club station is W2EGB. The club also has several VHF and UHF repeaters open to club members and the public.